

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

**EP 0 817 399 A3**

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
07.10.1998 Bulletin 1998/41

(43) Date of publication A2:  
07.01.1998 Bulletin 1998/02

(21) Application number: 97116932.1

(22) Date of filing: 05.06.1991

(51) Int. Cl.<sup>6</sup>: **H04B 3/54**, H04L 5/06,  
H04L 5/14, H04L 27/20,  
H02J 13/00

(84) Designated Contracting States:  
**AT BE CH DE DK ES FR GB GR IT LI LU NL SE**

(30) Priority: **05.06.1990 GB 9012457**  
**01.02.1991 GB 9102199**

(62) Document number(s) of the earlier application(s) in  
accordance with Art. 76 EPC:  
**93102105.9 / 0 560 071**  
**91911484.3 / 0 532 648**

(71) Applicant:  
**SIEMENS MEASUREMENTS LIMITED**  
**Oldham, Lancashire OL9 7JS (GB)**

(72) Inventors:

- **Roberts, Lyn Mervyn**  
**London SW20 0NW (GB)**
- **Cooper, David Edward**  
**New Malden, Surrey KT3 3BU (GB)**
- **Stock, Kelvin Eric**  
**Leatherhead, Surrey KT22 8TH (GB)**

(74) Representative: **Allen, Derek**  
**Siemens Group Services Limited,**  
**Intellectual Property Department,**  
**Siemens House,**  
**Oldbury**  
**Bracknell, Berkshire RG12 8FZ (GB)**

### (54) Polling in a mains metering system

(57) A method of coordinating the transmission of polling messages from a low voltage distribution substation and the responses from a plurality of electricity meters is provided. The transmissions and responses are communicated over the low voltage distribution network. Precise phase of the data bit timing of transmitted polling messages from the substation is preserved between transmissions and the response from electricity meters maintains the phase of the data bit timing of the messages from the substation in its own transmissions. A further feature of the invention is to operate a mains metering system so as to avoid interference between polled data collection systems operating from each of a plurality of interconnected substations. This is achieved by operating each of the polled data collection systems on a separate frequency. By operating a plurality of polled data collection systems each on a separate frequency the information carrying capacity of a power distribution network data transmission system is increased.

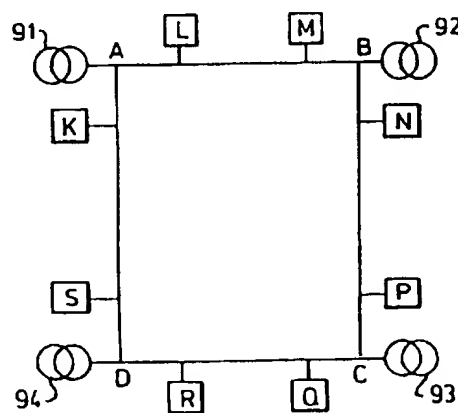


Fig.9.



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 97 11 6932

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	US 3 710 373 A (WATANAB ET AL.) 9 January 1973 * abstract *	1,2	H04B3/54 H04L5/06 H04L5/14 H04L27/20 H02J13/00
X	BURGER: ""Erfahrungen mit Netzkommandoanlagen"" BULLETIN DES SCHWEIZERISCHEN ELEKTROTECHNISCHEN VEREINS., vol. 57, no. 9, 30 April 1966, ZURICH, CH, pages 423-429, XP002071972 * page 423, right-hand column, paragraph 1 *	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			H04L H04B H02J
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>17 July 1998</b>	Examiner <b>Scriven, P</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			